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ABSTRACT

This study analyzes the relationships among a willingness to manipulate others (Machiavellianism), success (as measured by final grade) in a college communication course, and birth order. It was hypothesized that a more significant relationship exists between Machiavellianism and final grades in an interpersonal communication course than in a public speaking course, and that the relationship is significantly more positive for later born males and first born females than for males and females in the other positions. The subjects for the study were 435 undergraduate students in several sections of two basic speech courses. The first hypothesis was confirmed by the evidence presented in this study, but the second hypothesis was not proven. (The results of the study are presented in both narrative and table form.) (RB)

BIRTH ORDER, MACHIAVELLIANISM, SEX, AND FINAL GRADE IN TWO TYPES OF BASIC SPEECH COMMUNICATION COURSES

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Several studies reported in the last six years have examined relationships between different variables and final grades in the basic college speech course (Kibler, et al., 1968; Judd and Smith, 1969; Wall, 1970; Burgoon, 1971). A current problem in this area of research is the changing nature of the basic college course in speech communication. Traditionally, the basic course has been concerned with formal public speech communication. More recently, there has been a trend toward a basic speech course which focuses on informal communication in dyads and small groups ("interpersonal communication"). Research in basic speech communication courses should reflect the types of basic courses prevalent today (Stewart, 1972; Gibson, et al., 1973). The availability of two clearly differentiated types of basic courses (a public speaking course and an interpersonal communication course) provides a unique opportunity for comparative analyses of how selected variables function in such courses. Research of this nature is meager.

Burgoon (1971) found a significant positive relationship between willingness to manipulate others (Machiavellianism) and success (as measured by final grade) in a communication course ($r=+.40$) but not in a public speaking course ($r=+.09$) at General Motors Institute. The personality variable Machiavellianism was measured on the Mach IV scale, a standard Likert-type instrument developed by Richard Christie to measure willingness to manipulate others. Though the scale is reliable, subsequent research (Edwards, 1957) has indicated that subjects taking attitude inventories may not respond on the basis of their personal opinions, but rather tend to

endorse socially desirable views. Therefore, the Mach V scale, a twenty-item forced-choice version of the Mach scale, was devised by Christie to minimize the effects of social desirability. The correlation between the two instruments is +.89. The possible range of scores on the Mach scale is 40 - 160; the mid-point is 100. The research on Machiavellianism indicates that persons scoring high on the scale "succeed" more than low Mach scorers in situations where there is (1) face-to-face interaction, (2) latitude for improvisation, and (3) a high degree of irrelevant affect (emotional involvement in the interaction). Christie and Geis (1970) describe latitude for improvisation as indicating that "the structure of the social interaction is open ended, not specifically predefined in terms of content or timing" (p. 287). Irrelevant affect was listed as favoring high Machs because "one reason for lows losing to highs was that lows were distracted from effective bargaining by emotional involvement irrelevant to winning" (p. 295). All three of the situational characteristics favoring high Machs appear to be present to a relatively greater extent in an interpersonal communication course (which focuses on informal, face-to-face interaction) than in a public speaking course (wherein graded communication activities are formal public speeches, predefined in terms of content and timing). It seems a reasonable prediction that, in an interpersonal communication course, high Machs may achieve significantly higher grades through interpersonal manipulation of their peers and instructor.

If Machiavellianism is significantly related to final grades in an interpersonal course but not in a public speaking course because of substantial structural differences in the two courses, then personality variables related to Machiavellianism might also be significantly related to final grades in the interpersonal course but not in the public speaking course. Research on birth order suggests that certain ordinal positions

(e.g., the first-born child in the family, the last-born child in the family, etc.) may be related to "manipulative ability." The rationale for a birth order effect on personality involves the notions (1) that a child receives differential treatment from his parents as a function of his sex and order of birth (Sampson, 1965), and (2) that siblings have an effect on one's personality development (Sutton-Smith and Rosenberg, 1970). Christie and Geis remark, "The presence of siblings and their relative birth order could have marked effects" on the development of a Machiavellian personality (Christie and Geis, p. 337). Sampson (1965) summarizes studies and reports that "as compared with the first male and second female, the second male and first female are (1) more resistant to peer group influence /Sampson, 1962/, (2) more successful interpersonal manipulators to achieve grades /Singer, 1964/, and (3) more oriented toward an achievement style based on power than one based on rational thinking strategy /Sutton-Smith et al., 1964/." As Sampson's review points out, the relationships between birth order and manipulative strategy vary as a function of sex, with later-born males and first-born females having greater manipulative ability than first-born males and later-born females. On the basis of the literature reviewed above, it seems reasonable to predict that, in the interpersonal communication course, the correlation between Mach scores and final grades may be significantly higher for later-born males and first-born females than for other persons in the course. As Lessing and Oberlander (1972) state, "/I/t is clearly worth the investment of a great deal of research effort to determine whether any significant predictions about personality functioning can be made from family constellation data for any important, specifiable population of individuals" (p. 26).

Based on the preceding discussion, the following hypotheses were investigated:

(1) The relationship between Machiavellianism and final grades is significantly more positive in an interpersonal communication course than in a public speaking course,

(2) The relationship between Machiavellianism and final grades is significantly more positive for later-born males and first-born females than for males and females in the other ordinal positions in an interpersonal communication course but not in a public speaking course.

OVERVIEW

During the fall semester, 1973, data were gathered in 14 divisions of Speech-2, Fundamentals of Interpersonal Communication (n=232), and in 13 divisions of Speech-3, Fundamentals of Public Speaking (n=203) at the University of Maine, Orono. Data obtained included Mach V score, sex, birth order, year of graduation and grade point average. Neither the instructors nor the students knew the purpose of the investigation. The Mach V scale and data questionnaire were administered as part of "some research in communication theory." When final grades in the courses were submitted in December, 1973, instructors were requested to re-submit grades using (+) and (-) signs for students who were high or low within the letter grade assigned. These categories were then translated to numerical equivalents: A+=98, A=94, A-=90, B+=88, B=84, B-=80, etc. Correlations between Mach V score and final grades in the two types of courses were computed. As a test of the first hypothesis, two correlation coefficients were computed and tested for significance. To test the second hypothesis, the correlation between Mach V score and numeric grade was computed for males and females in each ordinal position. Resulting correlation coefficients in the two courses were tested for significance.

SUBJECTS

The subjects for this study were 435 undergraduate students. The two courses used in the study are offered by the Department of Speech in the College of Arts and Sciences and are required of oral communication majors.

Students from any department in any college of the University may enroll in either course. Successful completion of a basic speech course is required by some departments. No sections of either course were reserved for a select group of students, i.e., reticents, honor students or prospective departmental majors. Students in the two courses are predominantly freshmen and sophomores. Overall distribution of classes was similar.

COURSES

Speech-2, Fundamentals of Interpersonal Communication, emphasizes the development of knowledge and skills applicable to the relatively informal, spontaneous, face-to-face interactions between individuals and in small groups. A standardized syllabus was used in all divisions of the course. Grades in the interpersonal course were based on written examinations (50%) and on analytical and behavioral use of the principles of interpersonal communication in class exercises, experiences, and projects (50%). Textbooks were K. Giffin and B. Patton's Fundamentals of Interpersonal Communication (Harper and Row, 1971), and J. Stewart's Bridges Not Walls (Addison-Wesley, 1973).

Instructors in Speech-2 were five graduate assistants (n=142), one instructor (n=19), two assistant professors (n=40), and one associate professor (n=31) in the Department of Speech.

Speech-3, Fundamentals of Public Speaking, is a study of the nature and problems of public speech communication, with practice in representative speaking experiences. As in Sh 2, a standardized syllabus was used in the course. Grades were determined by performance on written quizzes (40%) and speeches and class assignments (60%). The textbook was H. Martin and C. W. Colburn's Communication and Consensus: An Introduction to Rhetorical Discourse (Harcourt, Brace, Jovanovich, 1972).

In Speech-3, the instructors were three graduate assistants (n=88), one part-time instructor (n=35), two instructors (n=45), and two assistant professors (n=35).

RESULTS

Means on Mach V scores and numeric final grades were computed for each course. The interpersonal communication course had a mean Mach V score of 100.177, with a standard de .ion of 8.467. In the public speaking course, the mean was 101.847, with a standard deviation of 9.256. A two-tailed t-test determined that the two courses did not differ significantly in Machiavellianism at the .01 level (See Table I).

The mean numeric final grade for the interpersonal course was 83.647, and the standard deviation was 7.432. The mean grade in the public speaking course was 81.606, with a standard deviation of 7.746. A t-test indicated that the mean numeric final grades for the two courses were significantly different at the .01 level (See Table II).[1]

Correlation coefficients between Mach scores and final grades were computed to test the hypothesis that high Mach students would earn the highest grades in the interpersonal course but not in the public speaking course. The Pearson correlation between Mach V scores and numeric final grades was r=-.0539 in the public speaking course and r=-.1295 in the interpersonal communication course. Therefore, the first hypothesis that the relationship between Machiavellianism and final grades would be significantly more positive in the interpersonal communication course than in the public speaking course was not supported. Moreover, in both the interpersonal course and the public speaking course, the observed relationship was negative (See Table III).

In the interpersonal course, the relationships between Mach V score and numeric final grade for later-born males (r=-.1581) and first-born

females (r=+.0280) were not significantly more positive than the correlations for the other categories of birth order by sex (See Table IV). Again, rather than positive, high correlations, the coefficients were negative or low. Thus, the data did not support the second hypothesis that the relationships between Mach V scores and final grades would be significantly more positive for later-born males and first-born females than for males and females in the other ordinal positions in the interpersonal course but not in the public speaking course. In fact, the relationship between Mach V scores and final grades in the interpersonal course for later-born males and first-born females combined was r=-.1307 (n=78, p=.127).

FURTHER ANALYSIS

Since the observed relationships were contrary to our expectations, analysis of the data, division by division, was made to examine whether the overall correlations obtained might be masking internal trends. Such trends might be due to divisional differences in instructor personalities, mean final grades, and the distributions on Mach scores, sex, and ordinal positions. The analysis of the correlation between Mach V scores and final grades division by division showed that, as was expected from the course by course correlations (public speaking, r=-.0539, interpersonal, r=-.1295), negative correlations were more marked in the interpersonal course than in the public speaking course. However, the analysis revealed that the negative correlation appeared proportionally more often in the interpersonal course. In the public speaking course the relationship was negative in 6 of the 13 divisions, while the relationship in the interpersonal course was negative in 10 of the 14 divisions. Therefore, the negative correlation between Mach V scores and final grades was a more consistent trend across divisions in the interpersonal course. It seems that types of courses may indeed be one determining factor in the relationship between Machiavellianism and final grades, though the observed relationship was negative rather than positive.

In experimental studies contributing to the development and refinement of the construct of "Machiavellianism" high Machs were operationally defined as those subjects scoring higher than the median on the Mach scale and low Machs were defined as those scoring lower than the median (Christie and Geis, 1970). Accordingly, the subjects in this study were divided into a high Mach group and a low Mach group. Subjects were also divided into five groups on the basis of the letter grade received as a final grade in the course: A, B, C, D, and E. Non-parametric statistics (Fisher's Exact, X^2, etc.) were computed on Mach groups and Letter grade groups division by division within the two types of courses. Once again, no consistent patterns were apparent.[2]

DISCUSSION AND CONCLUSIONS

In a critique of Burgoon's research, Rossiter, et al., argue that Machiavellian behaviors are inconsistent with the goals of an interpersonal communication course and that it seems surprising that these characteristics would be rewarded by instructors. Although the argument assumes that instructors are able to perceive the "manipulations" of high Machs, the study reported here gives some support to Rossiter's position. In the interpersonal communication course, students endorsing Machiavellian attitudes tended to earn lower grades. Furthermore, in the studies reported by Christie and Geis, high Machs apparently "won" over low Machs because low Machs became distracted by emotional involvements irrelevant to winning. Correspondingly, high Machs "succeeded" by concentrating on strategy. It seems likely that in an interpersonal communication course, strategies and competition are played down and relationships are emphasized. In this type of course situation, low Machs might be rewarded for greater emotional involvement.

The second hypothesis was based primarily on Singer's (1964) research. Singer found that males and females in various ordinal positions did not

differ significantly on Mach V scores. Our data were consistent with this finding (See Table V). In Singer's study, the correlation between Mach V score and grade point average was significantly higher for later-born males than for first-born males. He suggested that first-born and later-born males have an equal desire to manipulate, but that later-borns are more skillful interpersonal manipulators to achieve grades. Our correlations between Mach V score and final course grades did not support this view (See Table IV).

Although we investigated birth order by sex on the rationale that these variables might be related to Machiavellian attitudes, we had also thought that relationships among sex, ordinal position, and final grades (without reference to Mach V score) might show consistent patterns (e.g., most later-born males earning A's). None were found (See Table VI).

It seems that further attempts to investigate whether experiences associated with ordinal position of birth systematically affect the development of communicative ability should be productive. However, the research will need to consider other variables, such as sex and spacing of siblings, etc. (Warren, 1966, exp. p. 39; Schooler, 1972).

It seems that more experimental manipulation of variables could help resolve some of the questions regarding the affect of personality variables in the classroom. More investigation is needed into types of "personalities" or "persons" that do "succeed" in the basic speech communication course, especially if the structure/format/content of the basic course is undergoing change and re-definition. Burgoon's study indicates that a communication course can be structured in such a way that high Mach students are able to achieve significantly higher grades than lower Mach students.

FOOTNOTES

[1]That mean numeric grades differed in the interpersonal and the public speaking course did not limit the study as (1) Mach means were not different (2) data were analyzed division by division and (3) Hayes argues that a significant t is not surprising: "There is a real danger in detecting trivial associations as significant results when the sample size is very large" (William L. Hayes, Statistics for Psychologists, Holt, Rinehart, and Winston, 1963, p. 33).

[2]These points are developed further in G. Libby (1974).

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TABLE I

T-TEST FOR COURSE BY MACH SCORE

Variable	N	Mean	S.D.	S.E.	t (two-tailed)
Pub Sp	203	101.8473	9.256	.65	1.19
Inter Com	232	100.1767	8.467	.556	

.01, t=2.59

TABLE II

T-TEST FOR COURSE BY NUMERIC GRADE

Variable	N	Mean	S.D.	S.E.	t (two-tailed)
Pub Sp	203	81.6059	7.746	.544	-2.80*
Inter Com	232	83.6465	7.432	.488	

*Significant, .01, t=2.59

TABLE III

PEARSON CORRELATION ON MACH SCORE WITH NUMERIC FINAL GRADES: COURSE BY SEX

COURSE	SEX		
	Males+Females	Males	Females
Pub Sp	r=-.0539 p=.222 n=203	r=-.0654 p=.224 n=137	r=-.0930 p=.229 n=66
Inter Com	r=-.1295 p=.024 n=232	r=-.1030 p=.143 n=109	r=-.0608 p=.252 n=123

TABLE IV

PEARSON CORRELATION ON MACH SCORE AND NUMERIC FINAL GRADES: COURSE BY BIRTH ORDER

COURSE	BIRTH ORDER					
	First-B Males	Later-B Males	Last-B Males	First-B Females	Later-B Females	Last-B Females
Pub Sp	r=-.0268 p=.437 n=38	r=-.1606 p=.114 n=58	r=-.0068 p=.484 n=37	r=.0098 p=.484 n=20	r=-.1921 p=.215 n=19	r=-.0003 p=.499 n=23
Inter Com	r=.1716 p=.159 n=36	r=-.1581 p=.142 n=48	r=-.4024 p=.032 n=22	r=.028 p=.442 n=30	r=-.2718 p=.021 n=56	r=.2049 p=.126 n=33

TABLE V

ANALYSIS OF VARIANCE ON MACH SCORES

Source	Sum of Squares	DF	Mean Square	F
Course (C)	24.989	1	24.989	0.326
Sex (S)	398.917	1	398.917	5.197
Birth Order (B)	56.956	3	18.985	0.247
C-S	189.152	1	189.152	2.464
C-B	237.439	3	79.147	1.031
S-B	201.619	3	67.206	0.875
C-S-B	332.754	3	110.918	1.445
Within	31857.630	415	76.765	

*Significant, .01, F=6.64

TABLE VI

ANALYSIS OF VARIANCE ON NUMERIC FINAL GRADE

Source	Sum of Squares	DF	Mean Square	F
Cource (C)	1564.261	1	1564.261	29.689*
Sex (S)	287.402	1	287.402	5.455
Birth Order (B)	29.933	3	9.976	0.189
C-S	62.153	1	62.153	1.179
C-B	245.435	3	81.812	1.553
S-B	231.394	3	77.131	1.464
C-S-B	277.677	3	92.559	1.757
Within	21865.231	415	52.687	

*Significant, .01, F=6.64